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(54) Storage container

(57) A container (10) according to one embodiment includes a plurality of walls (14) extending upward from a base (12). A lid (18) is hingeably attachable to a first wall (14) of the plurality of walls by a hinge formed by a hinge pin (42) on one of the lid (18) and the first wall (14) and a hinge receiver (24) formed by the other of the lid (18) and the first wall (14). The lid (18) and the first wall (14) each include a lever point (48,50) against which a tool (80) can be leveraged to assist in attaching the hinge pin (42) into the hinge receiver (24).

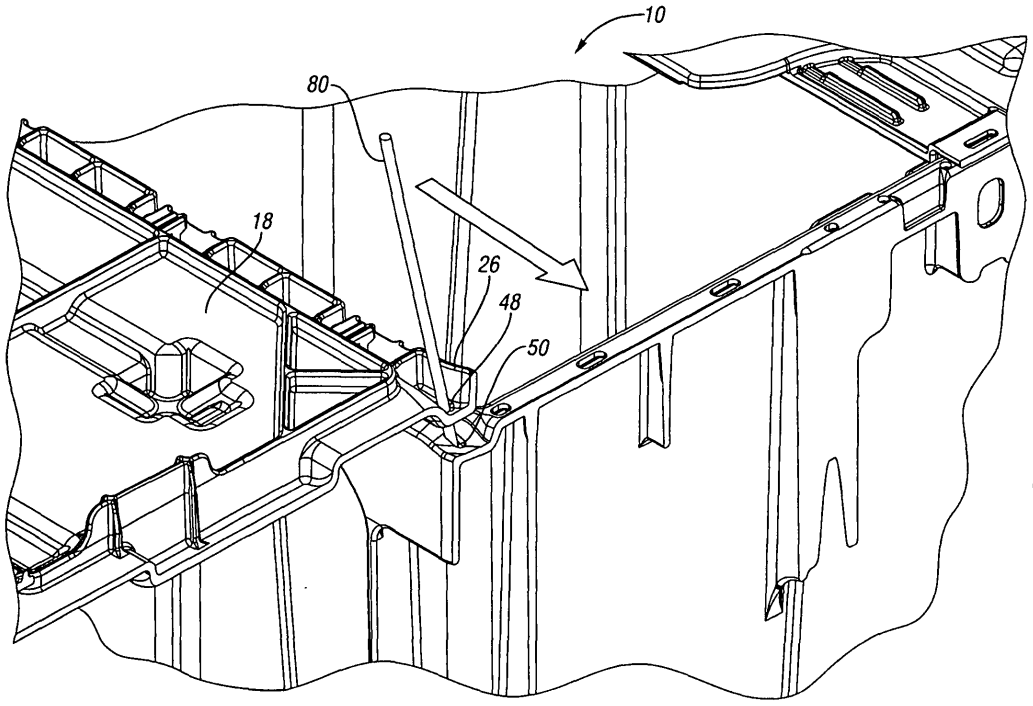

Fig. 4

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Description

BACKGROUND

[0001] Attached-lid containers (ALCs) typically include a plurality of walls extending upward from a base. A pair of lids are hingeably connected to the upper edges of opposite side walls. Hinge pins and hinge receivers are formed on the lip of the container and at outer edges of the lids. The hinge pins can be difficult to snap fit into the hinge receivers.

SUMMARY

[0002] A container according to one embodiment includes a plurality of walls extending upward from a base. A lid is hingeably attachable to one of the plurality of walls by a hinge. The hinge includes a hinge pin on one of the lid and one of the plurality of walls and a hinge receiver formed by the other of the lid and the one of the plurality of walls. The lid and the one of the walls each include a lever point against which a tool can be leveraged to assist in attaching the hinge pin into the hinge receiver.

[0003] In the disclosed embodiment, the lever points are holes. By inserting the tool into both holes, the tool can be used to leverage the hinge pin into the hinge receiver.

[0004] In the disclose embodiment, the container includes a lip protruding outward and downward from an uppermost edge of the one of the side walls, and the lever point is formed in the lip.

[0005] The lid may include a plurality of hinge members having recesses therebetween. The hinge pin may be formed integrally with the lid and project inward from the hinge member into the recess. The lever point on the lid may be formed on the hinge member.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006]

Figure 1 is a perspective view of a container according to one embodiment of the present invention, with one of the lids in an open position.

Figure 2 is an enlarged view of one of the corners of the open lid of Figure 1 adjacent the container, prior to attachment of the lid.

Figure 3 is a section view through the lid and container of Figure 2.

Figure 4 shows the lid and container of Figure 3, with a tool leveraging the lid into attachment to the container.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0007] A storage container 10 according to one embodiment of the present invention is illustrated in Figures 1-4. Referring to Figure 1, the storage container 10 includes a base 12 and a pair of opposed side walls 14 and a pair of opposed end walls 16 extending upwardly from the periphery of the base 12. Lids 18 are hingeably connected to upper edges of the side walls 14. A flange or lip 22 protrudes outward from the upper edge of the side walls 14 and the end walls 16. Over the side walls 14, the lip 22 includes a plurality of hinge receivers 24 formed thereon. The hinge receivers 24 hingeably retain hinge members 26 formed integrally with the lids 18.

[0008] The inner edge of each lid 18 includes a plurality of interlocking lower leaves 28 and upper leaves 30. The lids 18 can be pivoted away from one another to provide access to the storage container 10. Each end wall 16 includes a handle 38.

[0009] Figures 2-4 illustrate the attachment of one of the lids 18 to the side walls 16. Referring to Figure 2, the lid 18 includes a panel portion 34 from which a plurality of ribs 36 project downward. The outer edge of the lid 18 includes a plurality of recesses 40 between the hinge members 26. The recesses 40 receive the hinge receivers 24. Hinge pins 42 project from the hinge members 26 toward one another in the recesses 40. The hinge receivers 24 include recesses 44 that open outwardly to receive hinge pins 42 therein. At each end of the container 10, the hinge receivers 24 include an aperture 46 (Figure 3) that opens toward the end of the container 10. As can be seen in Figure 2, the hinge pin 42 is not initially aligned with the aperture 46. Therefore, in one implementation according to the present invention, the hinge member 26 and the lip 22 are each provided with a lever point to assist in assembly. In this example, the hinge member 26 is provided with a hole 48 that is partially aligned (or nearly aligned) with a hole 50 through the lip 22 (Figures 2 and 3).

[0010] To assemble the lid 18 to the side walls 14 of the container 10, the opposite hinge pin 42 is first inserted into the hole 50 at the opposite end of the lid 18. Then, as shown in Figure 4, an elongated tool 80 (e.g. screwdriver) is inserted at an angle through the holes 48, 50. By moving the tool 80 toward the end of the container 10 as shown in Figure 4, the hinge member 26 is deflected outwardly until the hinge pin 42 is aligned with the aperture 46 in the hinge receiver 24. When the tool 80 is released, the hinge pin 42 is pulled into the aperture 46 in the hinge receiver 24 to hingeably retain the lid 18 to the container 10.

[0011] The holes 48, 50 and tool 80 provide an improved, easier method for assembling the lids 18 to the side walls 14 of the container 10.

[0012] In accordance with the provisions of the patent statutes and jurisprudence, exemplary configurations described above are considered to represent a preferred embodiment of the invention. However, it should be noted that the invention can be practiced otherwise than as specifically illustrated and described without departing from its scope.

Claims

1. A container (10) comprising:

   a base (12);
   a plurality of walls (14,16) extending upward from the base (12), the plurality of walls including a first wall (14);
   a lid (18) hingeably attachable to the first wall (14) by a hinge formed by a hinge pin (42) on one of the lid (18) and the first wall (14) and a hinge receiver (24) formed by the other of the lid (18) and the first wall (14), wherein the lid (18) and the first wall (14) each include a lever point (48,50) against which a tool (80) can be leveraged to assist in attaching the hinge pin (42) into the hinge receiver (24).

2. The container (10) of claim 1, wherein at least one of the lever points is a hole (48,50).

3. The container (10) of claim 2, wherein both lever points are holes (48,50).

4. The container (10) of any of claims I to 3, wherein the container (10) includes a lip (22) protruding outward and downward from an uppermost edge of the first wall (14), wherein the lever point (50) on the first wall (14) is formed in the lip (22).

5. The container (10) of any preceding claim, wherein the lid (18) includes a plurality of hinge members (26) having recesses (40) therebetween, the hinge pin (42) formed integrally with the lid (18), the hinge pin (42) projecting inward from the hinge member (26) into the recess (40).

6. The container (10) of any preceding claim, wherein the lever point (48) on the lid (18) is formed on the hinge member (26).

7. The container (10) of any preceding claim, wherein the container (10) includes a lip (22) protruding outward and downward from an uppermost edge of the first wall (14), wherein the lever point (50) on the one of the walls is formed in the lip (22).

8. The container (10) of any preceding claim, wherein the hinge receiver (24) is a projection at an upper edge of the first wall (14), wherein the hinge receiver (24) includes an aperture (46) for receiving the hinge pin (42) of the lid (18), wherein the lever point (50) on the first wall (14) is formed on the lip (22).

9. The container (10) of claim 8, wherein at least one of the lever points (48,50) is a hole.

10. The container (10) of any preceding claim, wherein the plurality of walls further includes a second wall (14) opposite the first wall (14), the lid (18) is a first lid, the container (10) further including a second lid (18) hingeably connected to the second wall (14), the first lid (18) including a plurality of lower leaves (28) and upper leaves (30) on an inner edge thereof interlockable with a plurality of lower leaves (28) and upper leaves (30) on an inner edge of the second lid (18).

11. A method for assembling a lid (18) to a container (10) including the steps of:

    a) placing a lid (18) adjacent an upper edge of a first wall (14) of a plurality of walls extending upward from a base (12);
    b) during said step a), placing a hinge pin (42) adjacent a hinge receiver (24);
    c) after said step b), placing an elongated tool (80) against a first lever point (50) on the first wall (14) and a second lever point (48) on the lid (18); and
    d) engaging the tool (80) against the first lever point (50) and the second lever point (48) to assist in inserting the hinge pin (42) into the hinge receiver (24).

12. The method of claim 11, wherein the first lever point is a first hole (50).

13. The method of claim 12, wherein the second lever point is a second hole (48).

14. The method of claim 12 or 13, wherein the container (10) includes a lip (22) protruding outward and downward from an uppermost edge of the one of the plurality of walls (14), wherein the first hole (50) is formed in the lip (22).

15. The method of any of claims 11 to 14, wherein the hinge receiver (24) is a projection at an upper edge of the one of the plurality of walls (14), wherein the hinge receiver (24) includes an aperture (46) for receiving the hinge pin (42) of the lid (18).

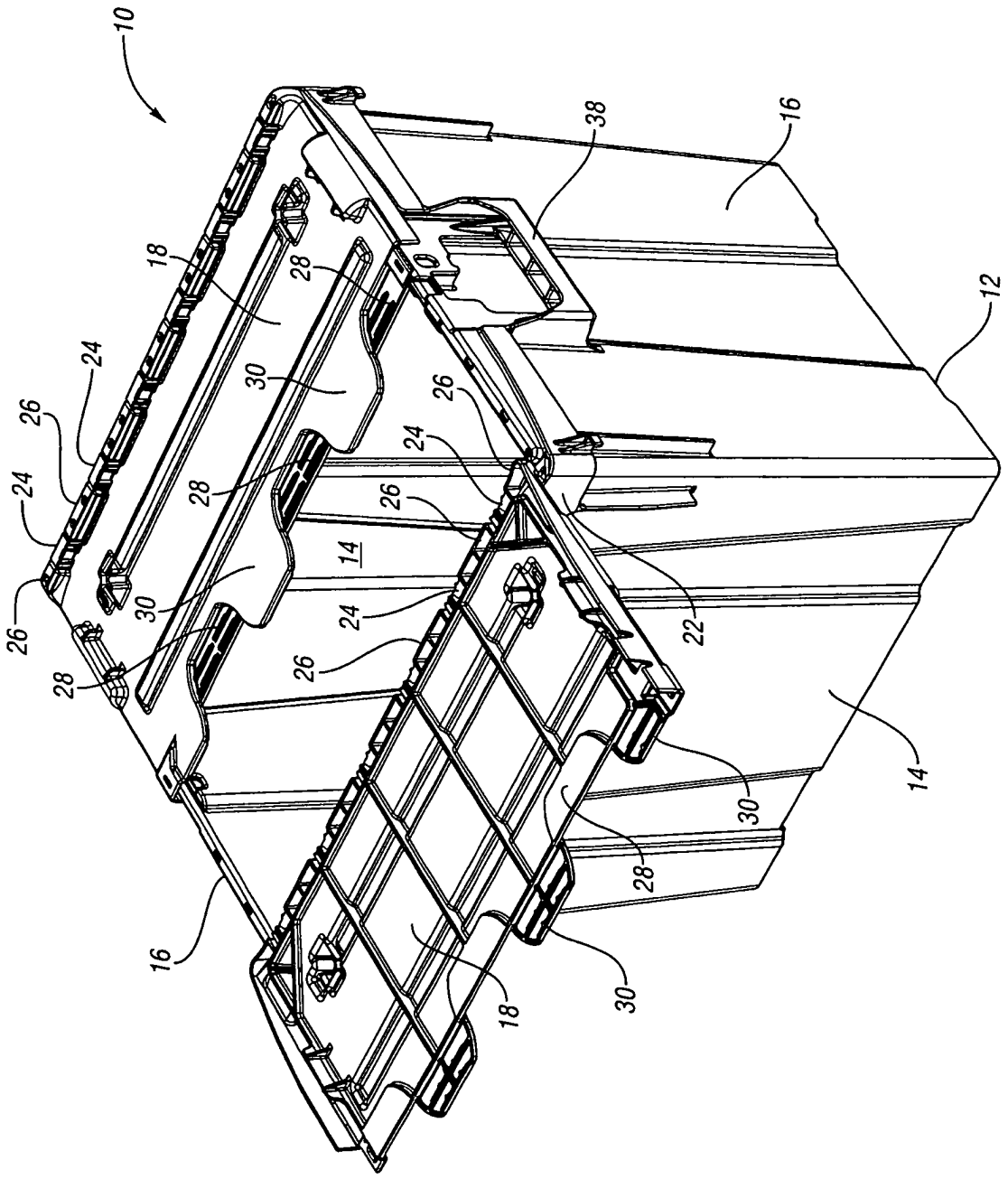


Fig. 1

Fig. 2

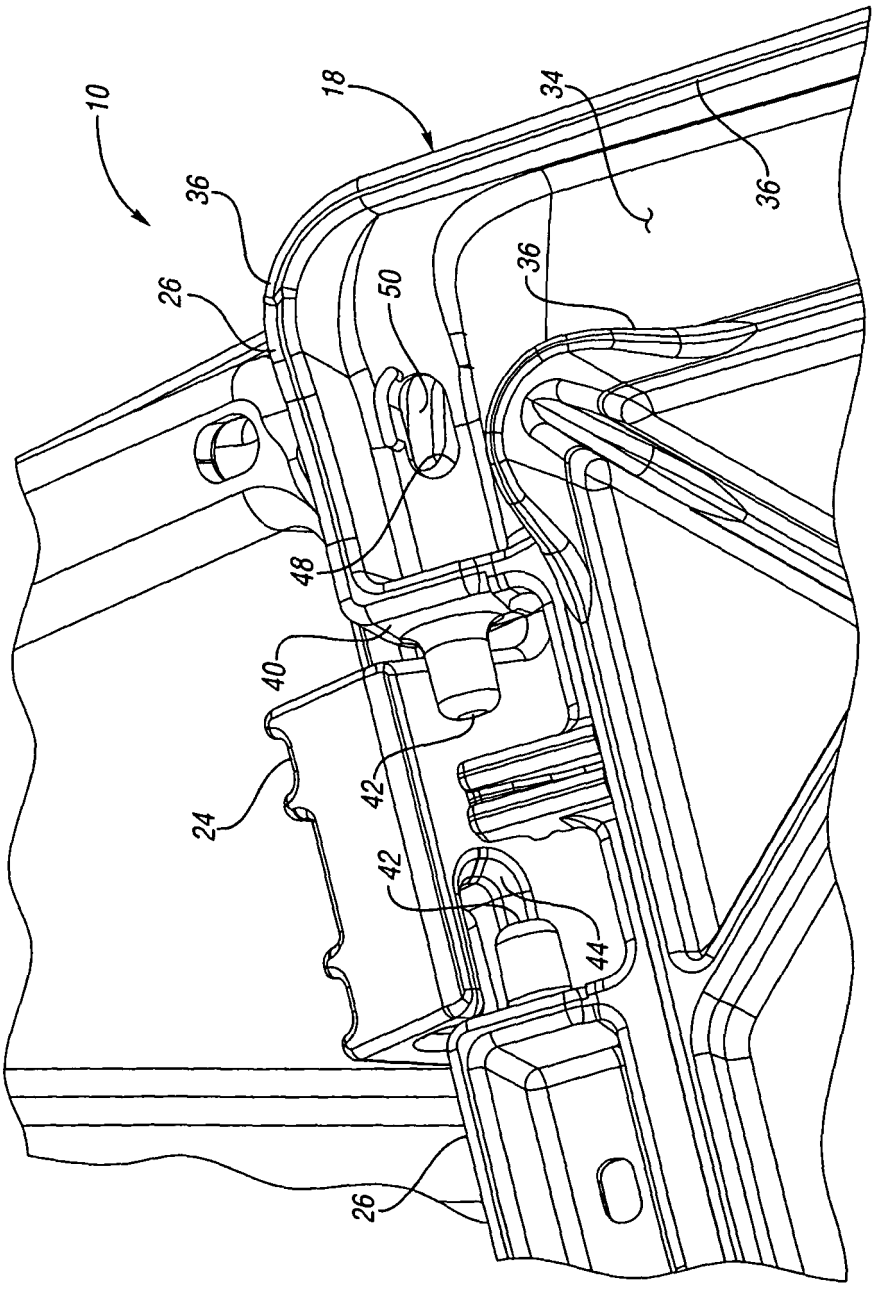


Fig. 3

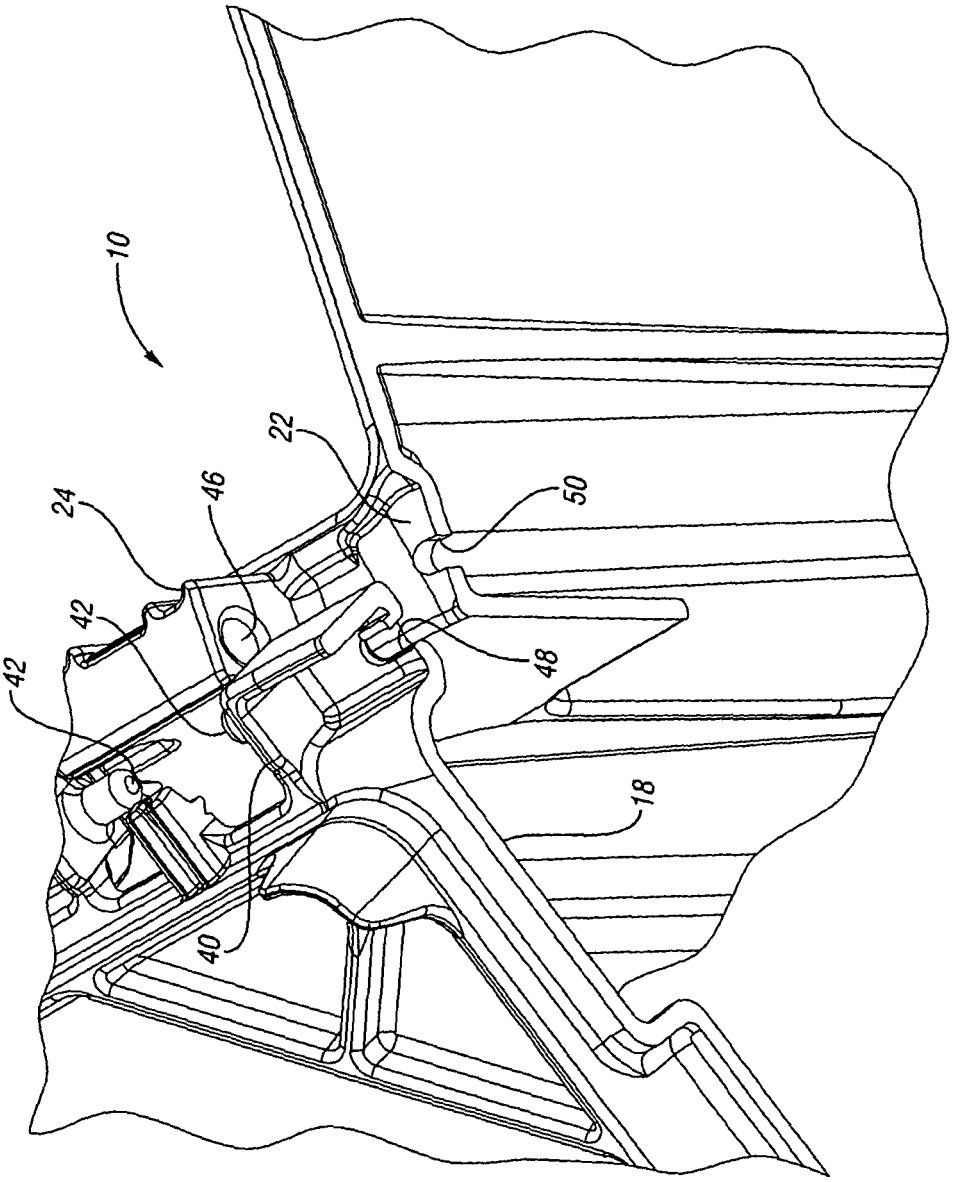
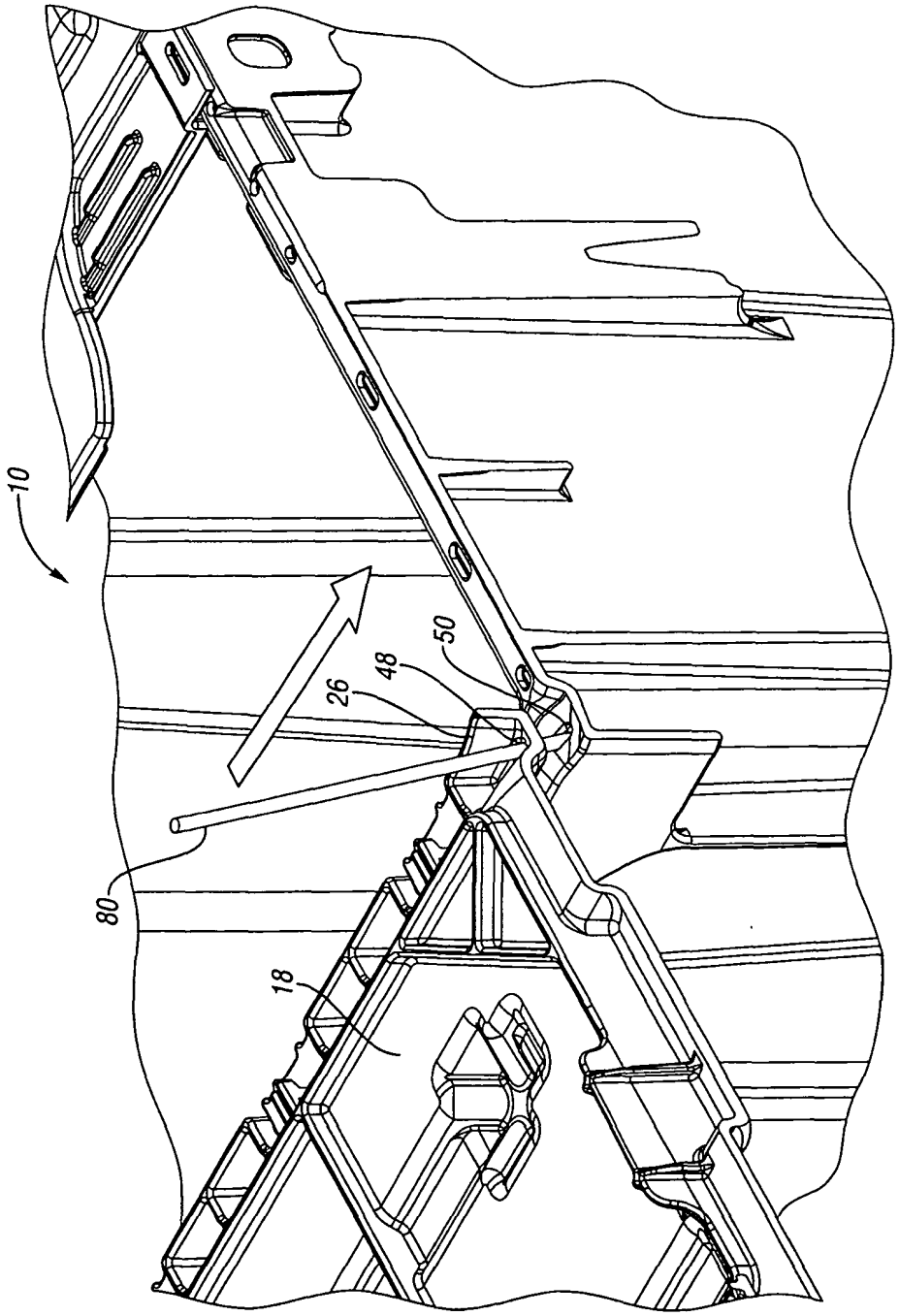


Fig. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 12 16 3631

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2006/186123 A1 (BALTZ KYLE L [US] ET AL) 24 August 2006 (2006-08-24) * paragraph [0043]; figure 5 *	1-15	INV. B65D43/16
A	US 4 349 121 A (LAFFERTY JAMES) 14 September 1982 (1982-09-14) * column 2, line 6 - line 12; figure 2 *	1-15	

TECHNICAL FIELDS SEARCHED (IPC)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	15 May 2012	Zanghi, Amedeo

CATEGORY OF CITED DOCUMENTS

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1 EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 12 16 3631

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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15-05-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006186123 A1	24-08-2006	NONE	
US 4349121 A	14-09-1982	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82